NRO REVIEW COMPLETED

APPENDIX I REVISION NO. II

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	ECP NO.	DESCRIPTION	_	TARGET	PRICE	CEILING PRICE
STAT	22-1-1					
	22-2-1					
·	22-3-1					
	22-4-1					
	22-5-1					
	22-6-1	Improved Distance Measuring for ARC-50				
	22-7-2	ARC-50 Ground Stations				
	22-8-1	Liquid Oxygen System Installation in Vehicles #132 and #133	•			
	22-9-2	Lightning Tests				
	22-10	Suit Vent Air System Regulator				
	22-11-1	Oxygen System Balance Valve				
	22-12-1	A-12 Parachute Improvement Program				
	22-13-1	Periscope Improvement Program				
	22-14	Revised INS Rack Installation				
STAT	22-15		•			
,	22-16	Oxygen System Low Pressure Warning Ligh	nt			
	22-17	Replace Control Stick Grips on A-12 and AF-12	P.			
	22-18-1	Retrofit LOX System - A-12's (Already accomplished on #132 and #133)				
STAT	. 22-19					
. t						

^{*} Redetermined Item.

٠.	POD NO	DESCRIPTION	TARGET PRICE	CEILING PRICE
STAT	ECP NO.			
	22-21			
	22-21	Tacan in all A-12's except #121 and		
	_	124. See ECP 22-75 for #124		
STAT	22-23			
	22-24	Drag Chute Deploy Handle	ı	
•	22-25	Aero-Med Instrument		
	22-26	Periscope Projector Film Destruct System		
	22-27-1	Map Case Destruct System		
STAT	22-28-1	, ,		
	22-29-1	Pilot Voice Recorder		
	22-30-1	Compressor Inlet Pressure Indicating System		
(22-31-1	SR-3 Improved Gyro Reference Heading System Except #124. See ECP 22-74.		
1's	22-32-1	Improved Fire Warning System		
	22-33	Structural Strength		
*/	22-34	Chine Mod and Refrig.		
	22-35-1	All Altitude Fuel Quantity System		
.*	22-36-1	Airplane Control System Checkout Cart (4)		
**	22-37-1	World Wide Capability Flight Tests		
	22-38	Increased Fuel Quantity Study		
	22-39	New Servos-Inter-System Leakage		
	22-40	Dual Initiator Qual.		
	22-41	Stall Warning System		
	22-42	Six Additional Cap Nap (LeCroix)		
(* Redetermined Item.		

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	ECP NO.	DESCRIPTION TARGET	PRICE	CEILING PRICE
STAT	22-43-1	Replace and install new Control Unit		
	22-44	Improve Pilot Fuel Control Capability		
	22-45	Enlarged LN ₂		
	22-46	Fuel Remaining Instrumentation		
	22-47	ARC-50 ADF Antenna Study Only		
	22-48-1	ADP Air Inlet Control		
	22-49-1	Fuel Management Revision		
	22-50-1	JC-130 Command XMTR and Recovery Chute Systems		
	22-51	AIC Prototype Changes		
STAT	22-52			
• ***	22-53			
(22-54	Type I Camera Provisions		
•	22-55	A-12 Mod, Study LN ₂ Incr. & Stl. Gudgeon		
	22-56-1	Roll, Pitch and Yaw Study		
,	22-57-1	Hydraulic Rework - TEB Can		
ž, s	22-58-1	Engine Oil Pressure Transmitter Design Improvement Testing		
	22-59	INS Hatch		
	22-60	Inlet Control Instrumentation		
	•			
	22-61	Not Used		
	22-62	AF-12 Seat and Parachute Rework Program		
	,			
	22-63-1	Fuel Cooling System		
,	22-64-1	Fuel Quantity Modification to Five KC-135's		
		* Redetermined Item. Approved For Release 2002/08/16 : CIA-RDP69B 00279R0001	00090001	5

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	ECP NO.	DESCRIPTION	TARGET PRICE	CEILING PRICE
	22-65-1	ARC-50 AY Installation Kits for Five KC-135's		
	22-66-1	Alternate Steering System for AF-12's		
STAT	22-67			
	22-68-1	Retrofit of Production ADP Inlet Control into S/N's 134 and 135		
	22-69	Drag Chute Improvements D		
	22-70	Improved Wheels and Brakes for A-12		
	22-71-1	Forward Look Periscope		
	22-72-1	Retrofit of Production ADP Inlet Control into all YF-12A's		
	22-73-1	Hydrogen Ignition System for YF-12A's		
(22-74	SR-3, #124, Breakout of 1 ship from 22-31 for later installation		
	22-75	TACAN, #124 Breakout of 1 ship from ECP 22-22 for later installation		
STAT	22-76	#124, 129, 131. Breakout		
. ** *		of 3 ships from ECP 22-43-1 for later installation		
		TOTAL		
	and the second			

^{*} Redetermined Item.

SUMMARY

I. REDETERMINED ITEMS

ECP NO.	TARGET	PRICE	CEILING PRICE
22-1-1			
22-2-1			
22-3-1			
22-4-1			
22-5-1			
22-6-1			
22-7-2 22-8-1			
22-9-2			
22-10			
22-11-1			
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22-13-1			
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22-48-1			
22-52			
22 - 53			
22 - 55 22 - 59			
22-60			
22-61			
22-62			
22-63			
22-67			
22-69			
22-70			
SUB TOTAL			
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STAT

## II. ITEMS TO BE REDETERMINED

בירם אה	TARGET	PRICE	CEILING PRICE
22-17 22-18 22-22-1 22-23 22-27-1 22-28-1 22-29-1 22-30-1 22-30-1 22-31-1 22-35-1 22-35-1 22-35-1 22-41 22-43-1 22-43-1 22-50-1 22-51 22-58-1 22-58-1 22-58-1 22-66-1 22-66-1 22-66-1 22-68-1 22-71-1 22-72-1 22-73-1 22-74 22-75 22-76 SUB TOTAL	TARGET	FILLO	
	1		

		SECRET CODY 7-8/0	2: 2:
į	<b>KENDRAN</b> DUH P	OR : Director, Hational Recennaiseance Office	NI
	SUBJECT	: Approval of Engineering Changes to OXCART	
5X1	MCF's approve the limitativiously approve reporting report will included in	erence is made to your letter of 5 February 1965 requesting a monthly report on new OECART ed by Director, Program B, is accordance with on set down and also a progress report on pre- oved changes. This memorandum restricts itself on ECP's approved since 5 February. A separate be made on those previously approved. Each ECP this report was under	2
	2. Dir low en 2 Mar	ector, Program B, approved the ECP's listed be- ch 1965:	
25X1	BCP 21-2	New antenna for ARC-50 DF capability.  Budgetary estimate This ECP covers  Flame I which is to design, develop and test a prototype. This is required to increase range and to improve rendezvous capability with the tankers.	25X
	<b>SCP 22-29</b>	Pilot Voice Recorder. This is a recorder com-	
		bined with a destruct system for all A-12 aircraft, and covers selection of the recorder, development of a destruct system, and production of kits for installation. This had been previously requested by Director, Frogram B, and the ECP represents the formal	2
		bined with a destruct system for all A-12 aircraft, and covers selection of the recorder, development of a destruct system, and production of kits for installation. This had been previously requested by Director,	2

25X1

	SECRET	25X ²
BCP 22-41	Stall Warning System. This was requested by by Director, Program B, after the loss of aircraft 123 and is designed to prevent pessible loss due to stall by providing a positive varning of an approaching stall. It is intended for all A-12 and AF-12 air-craft. Cost estimate is	25X1
BCP 22-51	Modifications to the Lockheed Inlet Control.  The MEP covers design, development and manufacture of components required to incorporate inlet control modifications on aircraft 129, 130 and 131. The change will reduce calibration time considerably and will provide more accurate and more reliable Mach sensors.  Setimated cost is	25X1
BCP 22-54	Modification to aircraft 121, 122 and 131 for Type I camera installation. (Other aircraft are aircraft to be capable of flying operational missions with Type I camera. Estimated cost is	25X1
RCP 23-56	Measurement of roll, pitch and yaw. This covers the design and manufacture of one comparator system and development of computor program required to analyze data of Type I and Type II camera systems. It is intended to improve both the performance and the quality of the systems. Estimated cost is	
3. Pro	gress of these ECP's will be reported at a later	25X1
	JACK C. LEDFORD Colonel, USAF Director, Program B, MRO	NRO 25. 25X
	SECRET 2	

## Approved For Release 2002/08/16: CIA-RDP69B00279B000100090001-5

1 1	BA/D/TECH/OSA (Chrono)  BECRET  SECRET  A March 1965)  Distribution:  1 - D/MRC  2 - HRO Comptroller  3 - DD/S&T  4 - AD/OSA  5 - D/TECH/OSA  6 - D/FA/OSA  7 - CD/OSA  9 - D/TECH/OSA (Chrono)  10 - RB/GSA		2
	10 - RB/CSA		
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25X1

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SECRET PAGE 2

ECP-67-134, NACELLE SWING JOINT PIPING REVISION SR-71. SP R-700

PREVIOUSLY APPROVED.

25X1

25X1

ECP-67-112, FUEL CROSSFEED VALVE POSITION INDICATOR SR-71.

ew - FMH == 6

ECP-SR-71-19/3666-139, COMPATIBILITY CHANGE SE APPROVED UNDER

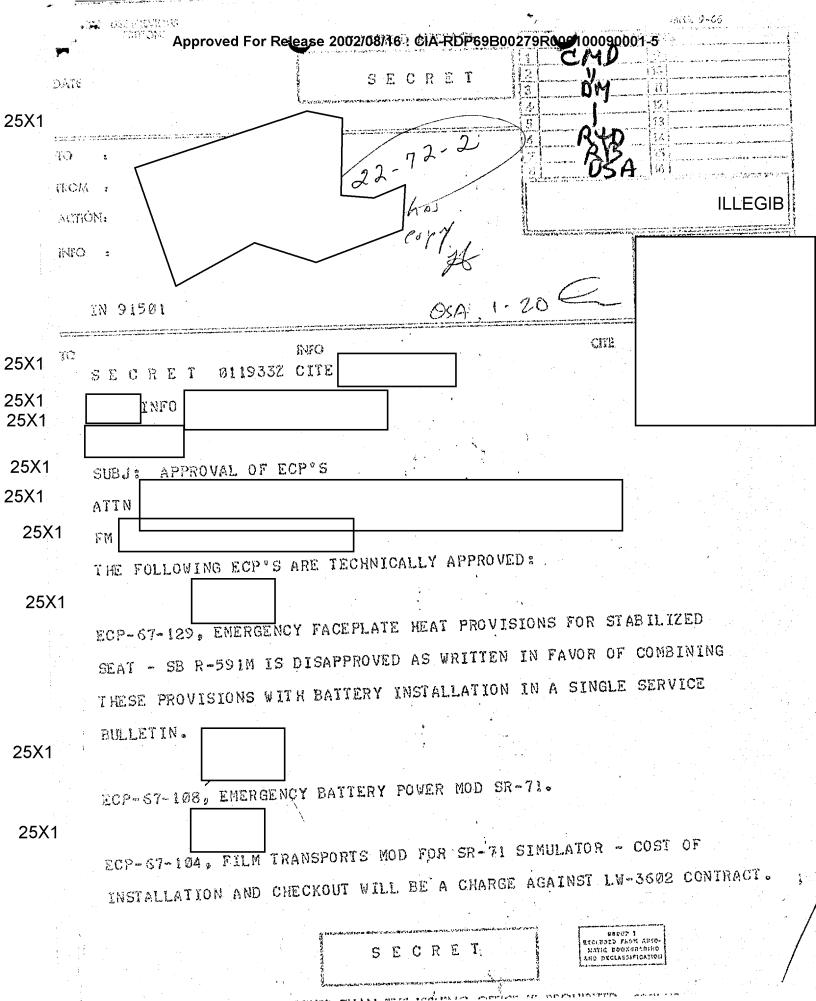
SEPARATE LETTER.

ECP-22-72-2, RETROFIT OF PRODUCTION ADP INLET CONTROLS IN ALL YF-12A°S

THIS IS A PRICE REDUCTION CHANGE. DISPOSITION INSTRUCTIONS FOR EXCESS

PARTS AND MATERIAL WILL BE PROVIDED BY THE SPO AT A LATER DATE.

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NAME (	OF MAJOR (	COMPONEN	IT PAR	T OR LOV	WEST SUBA	SSEMBLY	P,	ART NO. &	MODEL	OR	TYPE
FUEL	TANKS										
TITLE OF	F PROPOSAL		MANAGE	ENT REV	ISION						•
require 122, 12 of fuel	OF PROPO ed to char 25-132 1 1 from tar n tank #2	nge the f 34 and 13 1k #2 to	uel tanl 5 Also tank #6	sequent include and sto	cing of t ed are ki p the tra	tanks #3 Lts neco wasfer 1	and #4	in A-12	aircrai	rt(I	21) ansfe
Partial	1 kits will ft 134 and Part N 7-860- 6-160- 7-160-	L be pro 1 135. I umber 1	vided for included Shute Pres	or the t in the N	rensfer ( kits wil	of fuel l be:		1k #2 to 2ty. 2 2 2 2 2	tank #6	5 fo	r
sequence	FOR PROP cing. As r portion		, the C.	G. of t	he artic	le vill	be move	i further	eft fo	or a	
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FOCK	Approved For Re		20072008EERIN		69E09279F	000100090001-5 LAC 22-	30-1	NRO
DATE	14 January 1966		AFFECTS:		X	PROJECT	x	25X1
NAME	E OF MAJOR COMPONENT	EL OR TYPE						
TITLE	OF PROPOSAL: COMPRES	OR IN	viet pressu	RE INDIC	ATING SYS	TEM	·	
in e	URE OF PROPOSAL: This sy each compressor and the ed pages 2 - 3 for techn	requir	red total p	ressure				e
1. 2.	ECP covers the following Design and development Engineering design requirest.	of the	Pressure				2A Air	
3.	Fabrication of retrofit aircraft.	kits	for all A-	12, Artic	eles excep	t S/N 124, and a	11 YF-12A	
The ECP.	affect of this system o	n the	R-12 progr		be covere nued on F		нт-3664	
3. 4.	Will permit pilot to de will allow completion of This is only indication Present pressure recoved dual reciprocating engine with a true pressure rewas available to make the Pilot can read small aims.	f miss of in ry ins ne men cover; his po	sion range. nlet pressu strument no nifold gaug y indicatin ossible.	we recommend in use ge. It is good system	very. e is simpl nas been p n when suf	y made from a clanned to replace ficient flight and	converted ace this test data	
ES	ESTIMATED COST AND TIME ADDITIONAL FUNDING REQU		VED :	N/A				
СP	ESTIMATED COST FOR KITS OF		RTS:	(See ]	Page 4.)	-		
ITEMS	AFFECTED BY PROPOSAL :							
SAFET	TY MISSION PERFORM OPERA PROCE	DURE C	INTER-CHANGE-ABILITY BALA	IT & SUPI	PORT NANCE PROCED	E   LIFE   MAN	SHT MAINTE- NANCE MANUAL	
	MAN/HRS. REQ'D. TO ACCOM		<del></del>			MICENE AFTER A	DDDOVAL	-/
	RCE OF PARTS FOR KIT ADP er Service Bulletins A-6			AVAILABI	LITY		Q 9	
l	OSITION OF SPARES AFFECTED IS WILL BE RETURNED TO D		FOR DISPOSI	TION.		ame	C+ 7	
ITINI ADP	ATED BY:			APPROVE	D: PROJ	ECT		

### NATURE OF PROPOSAL (Continued) --

The proposed system calculates and provides a visual display of the pressure defined by the expression,  $P = \frac{Ve^{-2}}{400} P_{400}$ . Visual displays of actual left and right static pressures are provided in such a manner as to permit comparison with the calculated pressure.

The pressure display is obtained through the use of a triple pointer indicator. A separate electronics package houses the associated amplifiers and bridge circuits. Potentiometer type pressure transducers are employed to convert the left and right static pressures into an electrical signal. Intelligence for use in the pressure calculation is obtained by means of characterized potentiometers located in and driven by the Air Data Computer.

One of the potentiometers located in the ADC is characterized to produce an output which is proportional to  $\frac{Ve^{-2}}{400}$ . The second potentiometer is characterized to produce an output which is proportional to  $\frac{1}{400}$ . These potentiometers, in conjunction with two (2) fixed resistors and two (2) trim potentiometers, constitute one half  $(\frac{1}{2})$  of a Wheatstone bridge. Trim pots and resistors in the electronics package and a rebalance potentiometer in the indicator, make up the second half of the bridge. Bridge unbalance is amplified and a servo motor drives the indicator potentiometer wiper to the position required to restore balance.

Indicator - The proposed triple pointer indicator contains three (3) motors, three (3) gear trains, and three (3) rebalance potentiometers within a single square case. The indicator places the calculated pressure in the form of a bug type pointer which provides visual representation of an allowable pressure band width.

Control Unit - This unit contains the three (3) bridge circuits and the three (3) amplifiers required for the system.

Internally, this device consists of five (5) rectangular circuit boards which are supported from the backplate by means of standoffs. Six (6) potentiometers are located under a cover on the backplate and are used for field adjustment of the system. Two (2) multipin connectors are employed for making electrical connections.

The circuit used to calculate pressure is essentially a Wheatstone bridge. Half of the bridge is located in the control unit and the other half is in the ADC.

Pressure Transducer - The proposed pressure transducers are of the bellows/potentiometer type. Provisions can be made to attach these units to the control unit or they may be situated at some other convenient point. These devices will be in a location which will minimize the required pressure line run.

## REASON FOR PROPOSAL (Continued) ---

- 6. When used with the Lockheed inlet control, this indicator will be used also to peak up the inlet performance when using the manual mode. This indicator is most essential when on manual mode in order to obtain maximum engine performance without inlet blowout.
- 7. This indicator, of course, tell when the inlet is started.

#### Reason for Revision:

To submit Proposed Target Price. This price reflects a reduction in the engineering and manufacturing effort, the material costs and the deletion of ship 124.

This ECP was approved by Headquerters Message 2341, dated 10 February 1965.

	Approved For F				279R00	010009000	J1-5	•
LOCKI	HEED - CALIFORNIA COMPA		ERING STUDY		. 1	AC 2	2-30	9 1 8 8
		CHANG	E PROPOSAL		4703	2" 4. 39		
ATF :	14 October 1964	AFFECT	5:		<b>\(\bar{\pi}\)</b>	PROJ	ест 🔯	. !
NAME	OF MAJOR COMPONENT	PART OR LOWE	ST SUBASSEA	MBLY	PAF	RT NO. & /	MODEL O	R TYPE
ITLE	OF PROPOSAL: COMPRESSO	r inlet press	URE INDICA	TING SY	STEM			
This and	RE OF PROPOSAL: system would enable th the required total pres nical description.)	e pilot to se sure on a tri	e the tota ple indica	l inlet tor. (S	ee atta	ched pag	ев <u>2 -</u>	3 for
L. 1 2. 1 3. 1	ECP covers the following Design and development Engineering design required Fabrication of retrofit	of the Pressurired to incor, kits for all	re Indicat porate the A-12 and	System	in all			
•	Installation on all A-1 affect of this system of	•	,	be cov	_	n a separ Continued		
DE A S	ON FOR PROPOSAL:							)/
<b>4.</b> :	This is only indication Present pressure recove dual reciprocating engiwith a true pressure rewas available to make the Pilot can read small ai	ry instrument ne manifold go covery indica his possible.	now in us auge. It ting syste	e is si has bee m when	n plani suffic: nces in	ned to re	place that test	his data inlets.
<del></del>	ESTIMATED COST AND TIME	INVOLVED :		· · · · · ·	<u></u>			
ES								**************************************
CP	ESTIMATED COST FOR KITS ADDITIONAL FUNDING REQ	Sec	e Page 4.	Est.	udgetan of Rel. Progra	ry Target Program m Cost	Price Costs	
TEMS	AFFECTED BY PROPOSAL :						L	j
SAFEI	EFFEC- ANCE PROC		WEIGHT & SL	PPORT	MAINTE: NANCE ROCEDURE	SERVICE LIFE	FLIGHT MANUAL	MAINTE- NANCE MANUAL
	I IVENESS C			_				
	MAN/HRS. REQ'D. TO ACCOM	APLISH CHANGE	IN FIELD					
EST.				BILITY _	\	WEEKS AFT	ER APPRO	DVAL
EST. ASOUR	MAN/HRS. REQ'D. TO ACCOM	Ten O	AVAILAI	BILITY		WEEKS AFT	ER APPRO	
EST. ISOUR SERV.	MAN/HRS. REQ'D. TO ACCOME RCE OF PARTS FOR KIT ICE BULLETIN TO BE WRITE OSITION OF SPARES AFFECTER	Ten O	AVAILAI			WEEKS AFT	ER APPRO	OVAL

## NATURE OF PROPOSAL (Continued) --

The proposed system calculates and provides a visual display of the pressure defined by the expression,  $P = \frac{Ve^{-2}}{400} P_{400}$ . Visual displays of actual left and right static pressures are provided in such a manner as to permit comparison with the calculated pressure.

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# REASON FOR PROPOSAL (Continued) --

- 6. When used with the Lockheed inlet control, this indicator will be used also to peak up the inlet performance when using the manual mode. This indicator is most essential when on manual mode in order to obtain maximum engine performance without inlet blowout.
- 7. This indicator, of course, tells when the inlet is started or unstarted.

  This ECP was Item #2 on our 30 April 1964 ECP listing. We are proceeding based upon approval given in HQ's TWX 6882, dated 12 May 1964.

	Арі	proved For	Release	2002/08	3/16 : CIA	RDP69B	00279R	0001000900	01-5		
POCKE	HEED-CALIFOR							LAC	22-29	9-1	
				CHAN	IGE PROPO	)SAL	X			<u> </u>	VB8
DATE	14 JANUARY	1966		AFFE	CTS:			PR	OJECT [	x	25)
NAME	OF MAJOR C		PAR	T OR LOV	WEST SUBA	ASSEMBLY		PART NO. 8	MODEL	OR TYPE	
TITLE	OF PROPOSAL	PILOT	VOICE I	RECORDE	?						
NATU	RE OF PROPOS	SAL:									
The modi	ECP provide program incl fications to mum playback te the recor	udes the the the reco	select: order to gibilit;	ion of to increa	the recon ase recon und, and	rder, de rding ti product	velopm me to	ent of a d the level	estruct consist	system, ent with	
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ple quire Exother and please time. The	on for proposeratch pad sement is a I hermus Tape provides app n on-off switches provided shadestruct systems.	for pilor pictet who for destroy proximate itch and hould be etem is to	ts. The ich is a ruct can ly one lastarted sufficioning erections.	e record modified pabilit; hour plan by meas ent for d by pi	der seled to slow. This us of remains of the all operate the contract of the select the select telect to select the select telect the select telect telect the select telect tele	cted as w down to recording e pilot rational tion.	best of the spectrum. The time. microganissis	upplicable eed and add outfitted w The recor phone butto ions presen	for this a seri- ith ½ m der is on. The tly pla	s re- es of dll tape energized recordir	1
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ITEMS	AFFECTED BY	PROPOSAL	:								
SAFET	MISSION EFFECTIVENESS		PERATING PROCEDURE	INTER- CHANGE- ABILITY	WEIGHT OR WEIGHT & BALANCE	TOOLS & SUPPORT EQUIPMENT	MAINT NANC PROCED	E LIFE	FLIGHT MAHUAL	MAINTE- NANCE MANUAL	
EST. A	MAN/HRS. REQ	D. TO ACC	OMPLISH	CHANG	IN FIELD	<u></u>	<del></del>		· <del>V</del>		
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		5 February 1965	
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	2 miles a langue man miles ameana		
-	MEMORANDUM FOR THE RECORD		NR
	SUBJECT: Routine Meeting with the D/NI	RO	2
	•		
)	1. At 1600 hours on the 4th of Februa	ry. I. as Director of	
1	Program B, NRO, met with Dr. McMillan		
	routine review of current status of NRO prog		-
	report on the progress of a two-year progress and to advise him of the forthcoming request		
The second	funds from a surplus in the OXCART airfran	ne account to a shortage in	
	the J-58 engine account during the current fi	ne account to a shortage in iscal year.	•
	the J-58 engine account during the current fit.  3. After a review of the current pendicated complete satisfaction with my explanation.	ne account to a shortage in iscal year.  ding ECP's, the D/NRO anation of our proposed	•
	3. After a review of the current penindicated complete satisfaction with my explicated and that routine approval would be for	ding ECP's, the D/NRO anation of our proposed rthcoming shortly. In	
	3. After a review of the current pendicated complete satisfaction with my explement and that routine approval would be for addition, he felt that I had sufficient control	me account to a shortage in iscal year.  ding ECP's, the D/NRO anation of our proposed rthcoming shortly. In over the ECP program	
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	3. After a review of the current pondicated complete satisfaction with my explicated complete satisfaction with my explicated complete satisfaction with my explicated complete satisfaction with my explication, he felt that I had sufficient control and that he would raise the requirement for from He also receive authority to transfer surpluses from the engine account as required.	ding ECP's, the D/NRO anation of our proposed rthcoming shortly. In over the ECP program D/NRO approval on ECP's indicated that I would	257
1	3. After a review of the current pendicated complete satisfaction with my explication, he felt that I had sufficient control and that he would raise the requirement for from He also receive authority to transfer surpluses from the engine account as required.	ding ECP's, the D/NRO anation of our proposed rthcoming shortly. In over the ECP program D/NRO approval on ECP's indicated that I would	25)
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# Approved For Release 2002/08/16: CIA-RDP69B00279R000100090001-5 SECRET 25X1 25X1 25X1 25X1 (Signed) Jack C. Ledford JACK C. LEDFORD Colonel USAF Assistant Director (Special Activities) 25X1 AD/OSA/JCLedford Distribution: #1 - AD/OSA #2 - DD/S&T #3 - DAD/OSA #4 - C/PS/OSA #5 - D/TECH/OSA #6 - D/FA/OSA #7 - Chrono #8 - RB/OSA 25X1

Approved For Release 2002/08/16: CIA-RDP69B00279R000100090001-5

25X1

# DEPARTMENT OF THE AIR FORCE WASHINGTON

OFFICE OF THE UNDER SECRETARY

6 FEB 1915

nce is made to above.  22-30, 22-35, do as submitted  November letted  ECP's under  's under  keep me approved by you ar	ter which dele	andum of 3 Fe 3, 22-49, and egated you au ereby revised	ebruary, i 22-58 ithority i to	en e
above.  22-30, 22-35, d as submitte  November lett ECP's under 's under  keep me approved by you ar	22-36, 22-43 ed.  cer which delegis here	, 22-49, and egated you avereby revised	i 22-58 ithority	The second secon
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# CENTRAL INTELLIGENCE AGENCY WASHINGTON 25, D.C.

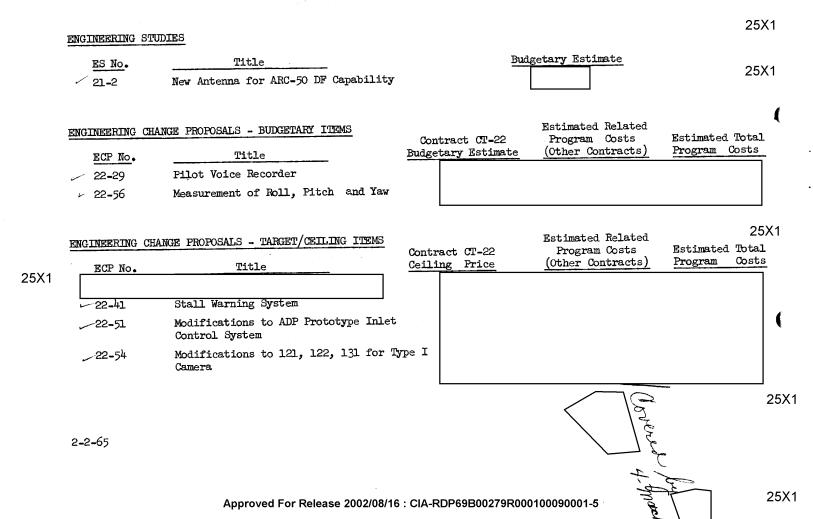
25X1	Copy_7 3 February 1965	25X1
	MEMORANDUM FOR: Director National Reconnaissance Office  SUBJECT: Approval of Engineering Changes to OXCART	NRO 25X1
_{25X1} NRO	1. Forwarded herewith are copies of six ECP's, each of which is over and therefore requires your approval in accordance with your letter of 24 November 1964. In addition I have attached a list of ECP's under that I have approved since receipt of your letter. In both cases, a short justification explaining the reason for the ECP is included. More detailed explanation may be found on the attached ECP's.	NRO 25X1
25X1NRO	2. It is recommended that you approve the six above and notify me so that the contractor may be advised.  3. The ECP's included in this document, plus those which have been approved prior to your memorandum of 24 November 1964, will provide for the so-called major modification program which we have been studying recently, with the exception of the following:  a. The addition of extra fuel tanks which we are recommending against.	
	b. The stiffening of the rudder post arms and the modification of the air data computer to obtain climb capability, and,	25X1
	Excluded from calconality	25X1 ,
	deviation and declaration section sect	25X1

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25X1		25X1
	. The state of the	25X1
	4. At this time it appears that the modifications enumerated in paragraph 3 above can be accomplished as service bulletins.  5. Although it appears that some savings could be obtained by accomplishing some of these ECP's and service bulletins in one modification program at Palmdale, I do not think the amount of savings would justify the security risk and the longer-down time of the aircraft which would result in going to Palmdale. I will have a program plan for the A-12 for the remainder of FY 65 and 66 within the next week which will demonstrate that we can accomplish our	
	objectives with the above ECP program and still be able to re-program money from the airframe line item to the J-58 engine line item to accomplish objectives in the engine program.	25X1
NRO	JACK C. LEDFORD  Colonel USAF  Director, Program B, NRO	NRO 25X1
25X1	Attachments:  I ECP's under (List)  II ECP's over (List)  III Six ECP's	
		, ,
	2	25X1
		25X1

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25X1				25X1
25X1	AD/OSA/JCLedford (2 Feb Distribution: #1 - D/NRO w/atts #2 - NRO Comptroller, w/a #3 - DD/S&T, w/atts I & II #4 - AD/OSA, W/atts I & I #5 - D/TECH/OSA, w/atts I & #6 - D/FA/OSA, w/atts I & II #8 - PS/OSA, w/atts I & II #9 - D/TECH/OSA (Chrono) #10 - RB/OSA, w/ atts I & II	atts I & II II II		
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#### Approved For Release 2002/08/16: CIA-RDP69B00279R000100090001-5

#### ENGINEERING STUDIES AND CHANGE PROPOSALS



OSA - 0678-65

>	February	1965

To:

Contracting Officer, Contracts CT-22 and FT-21

Subject: TRANSMITTAL OF ENGINEERING STUDIES AND CHANGE PROPOSALS

Transmitted herewith for your consideration and approval are the attached Engineering Studies and Change Proposals.

cc:

25X1

25X1

NRO

		SECRET Attachment I to:  LIST OF ECP'S UNDER	25X1 25X1 NRO 25X1
	22-7-2	Deletes replacement of two ARC-50 ground stations. This ECP was previously approved for a total of in March 1964 and amendment No. 1 is merely to gain formal approval of the celetion.	25X1
25X1	22-9-2	This amendment to a previously approved ECP is to increase the scope of lightning tests by conducting some on the nose of the aircraft in addition to the rudder. Ceiling price -	20/(1
25X1	22-11-1	Oxygen system balance valve. This amendment is to revise the system so as not to lose oxygen from a system that has failed by removing the failed system from usage. ECP 22-11 had been previously approved. Ceiling price -	
25X1	22-12-1	A-12 parachute improvement program. ECP 22-12 had been previously approved. This amendment is concerned with developing a method to provide additional altitude for better seat/plane separation. The new ceiling price is and the work is completed.	
	22-13-1	Periscope improvement. This was previously approved and the amendment adds the installation of a new reticle to provide the pilot with the ability to set his course by using the sun compass. Total cost -	25X1
	22-24	Drag chute deploy handle to replace 3-way toggle switch. This was requested by the pilots for more efficiency. Total cost -	25X1
25X1	22-27-1	Map case destruct system. Previously approved and this amendment is to establish firm ceiling price of	
· '			25X1

## Approved For Release 2002/08/16 : CIA-RDP69B06279R000100090001-5

25X1		SECRET Attachment I to:	25X1 25X1
25X1	22-62	Seat and parachute rework to accept more powerful catapult developed under ECP 22-12-1. This was for Kedlock vehicles and was approved by dated 28 December 1964. Estimate of related costs	<b>25X</b> 1
	22-66	Alternate steering system in case of loss of left hand, engine driven, hydraulic pumps for Kedlock vehicles.  December 1964 approved this ECP for	25X′ 25X1

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	Approved Fo	r Release 2002/08/16 : CIA-RDP69B00279R000100090001-5	in the second se
25X1	•	SECRET Attachment II to:	25X1 25X1
200		LIST OF ECP'S OVER	NRO 25X1
	22-30	Compressor inlet pressure indicator to enable the pilot to see the compressor inlet pressure in each engine to determine if controls are functioning in a manner that will allow completion of mission range. This is a necessary change and had been approved for all Kedlock vehicles. Total program cost -	25X1
Congression and Congress on the service of the Congression of the Cong	22-35	All Attitude Fuel Readout System. At the present time the fuel guage reads accurately only at an aircraft angle of attack of 7 1/2 degrees. Estimated total program costs -	25X1
edit er Financia ya Kini de Yapar iliyo aliko ga Biringani nga mpaki ya Kini kini kini kini kini kini kini kin	22-36	Design and develop four carts to aid in complete checkout of control system. This has been done previously by using whatever contractor equipment available but is needed to expedite operational checkouts on pre- and post-flights. The ECP also includes equipment for the Kedlock program. This ECP had been previously approved and this is the formal contractor request. Total estimated cost -	
25X1			
The execution graphing on the management of the execution	22-43	Replace in all OXCART vehicles being retrofitted with Lockheed electronic inlet control under ECP-48, previously approved. Actual go-ahead will be withheld until a final decision is made on inlet control. Total program costs -	25X1 25X1
25X1	22-49	Design and engineer kits required to change the fuel tank sequencing on all aircraft except #121. This is to reduce trim drag and results in greater range. Total cost -	25X1
23/1	22-58	Replace oil pressure transmitter with	
25X1		aborts. The present transmitter has been causing too frequent aborts for reliability.  Total cost -	
25X1			
	7. <b>4</b>	· .	25X1
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## Approved For Release 2002/08/16 : CIA-RDP69B00279R000100090001-5

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LOCKI	HEZD-CALIFORNIA COMPANY		ING STUDY	<u> </u>	LAC	22-22-1	
DATE	14 January 1966	AFFECTS:			PRC	NECT X	
NAME	OF MAJOR COMPONENT	PART OR LOWEST	SUBASSEMB	LY	PART NO. &	MODEL O	R TYPE
TITLE	OF PROPOSAL:	CAN		····			
inco ARC- stel diff	RE OF PROPOSAL: This ECP rporate TACAN in A-12 A 15F Receiver and B18A C lation will be removed icult task requiring en 129-131. Extensive mod s.	rticles 122,125 converter. In a from the nose p gineering for t	-132 134 eddition there	and 135. ne Glide	TACAN will Slope Marke Insta	replace or Receivallation 122,125-1	the er in- is a .28 and
ECP :	22-75 will incorporate	TACAN in Articl	e 124.				STAT
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REASC	ON FOR PROPOSAL:						
fer	of ship 124 to ECP 22 -		stallation				
fer engi		75 for later in of installati	stallation costs.	ı, a redu	etion in the	ne scorpe	of
fer engi	of ship 124 to ECP 22 - neering and the deletic	75 for later in on of installaticadquarters Mess	stallation costs.	ı, a redu	action in the	ne scorpe	of
fer engi	of ship 124 to ECP 22 - neering and the deletic ECP was approved by He ESTIMATED COST AND TIME ADDITIONAL FUNDING REQU ESTIMATED COST FOR KITS	75 for later in on of installaticadquarters Mess.  INVOLVED: UIRED:	stallation costs. sage 798,	ı, a redu	etion in the	ne scorpe	of
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ES CP ITEMS SAFET SOUR unde 950 DISPC	estimated cost and time additional funding requesting and the deletic economic and the deletic economic and time additional funding requesting additional funding requestional fu	T75 for later in on of installating adquarters Messes in the seadquarters in t	stallation on costs. sage 798, of the suppose of th	age 2.)  The Depo	July 1964.  July 1964.  Service Life  WEEKS AF	FLIGHT MANUAL	MAINTE-MANCE MANUAL
ES CP ITEMS SAFET SOUR unde 950 DISPC	estimated cost and time additional funding requesting and the deletic economic and the deletic economic and time additional funding requestimated cost for kits additional funding requestiments.  Affected by proposal:  Affected by proposal:  Affected by proposal:  Affected by proposal:  Manssion perform open ance inveness in a proposal inventor in a proposal in a proposal inventor in a pr	TOT STOR LATER IN THE PARTS:  UIRED:  ATING CHANGE WEIGHT CHANGE IN WEIGHT CHANGE IN WILL STORY CHANGE IN WILL STO	stallation on costs.  Rage 798, of the costs	age 2.)  The Depo	July 1964.  July 1964.  Service Life  WEEKS AF	FLIGHT MANUAL	MAINTE-MANCE MANUAL

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lockheed-california company		ng study Proposal	<u> </u>	LAC	22-22-1	
date 14 january 1966	AFFECTS:			PRO	DJECT X	. '
NAME OF MAJOR COMPONENT	PART OR LOWEST	SUBASSEMBLY		PART NO. &	MODEL C	OR TYPE
TITLE OF PROPOSAL :	CAN		<u></u> l			
NATURE OF PROPOSAL: This ECP incorporate TACAN in A-12 A ARC-15F Receiver and B18A C stallation will be removed difficult task requiring en (2) 129-131. Extensive mod areas.	rticles 122,125 onverter. In a from the nose pe gineering for to	-132 134 and ddition the er [ wo (2) sets	0135. Olide	TACAN will Slope Marke Insta	l replace er Receivallation 122,125-	e the ver in- is a 128 and
ECP 22-75 will incorporate	TACAN in Articl	e <b>1</b> 24.				
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This ECP was approved by He	adquarters Mess	age 798, dat	ed 20	July 1964.	in 9	-22
			C	over	CI	
ES ESTIMATED COST AND TIME		N/A				
ESTIMATED COST FOR KITS	-		· · · · · · · · · · · · · · · · · · ·			
CP ADDITIONAL FUNDING REQU	JIRED ;	(See Page	2.)	•-		
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EST. MAN/HRS. REQ'D. TO ACCOM	PLISH CHANGE IN	FIELD			·	
SOURCE OF PARTS FOR KIT ADP wunder Service Bulletins: 60 950 and 956.		AVAILABILITY		_ WEEKS AF	TER APPRO	VAL
DISPOSITION OF SPARES AFFECTED Equipment removed from airc		turned to th	e Dese	<del>.</del>		
INITIATED BY:	TOTA MITT DE LE	APPROVED:	e nepo	·.	·	N
PROJECT HEAD	Quarters	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				

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				Chan	GE PROPOSA	,	]				加
DATE	26 May 196	54		AFFEC	TS:			PR	OJECT	K	
NAME	OF MAJOR	COMPONENT	PART	OR LOW	VEST SUBASS	EMBLY	P	ART NO.	MODE!	OR TYPE	
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(ARC- insta diffi 125-1	15F received listion will cult job re 28, 132,133	SAI: Instaler and BISA il be remove equiring dis 3 (b) 129-1; shed. Major	convented from fferent 31 (c) r modi:	rter). n the no t engine 124 (d) Nication	In additions per reserving for 134,135.	on, the quest four se Prelimin "E"	Glide ets of dinary - bay	In: article: evaluat: and coe	arker R stallat s (a) l ion ind kpit as	eceiver ion is 21, 122, icates j vell as	оb
chang	es in other	r areas inc	luding	chines.	Assumes	TACAN	md Ind	licator :	is Grae	to LAC.	. • [.:
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I	ON FOR PROF	_	MTD:		· . · ·			wi	A.U.S	ide of	<b>)</b> ]
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	E OF PROPO le kits to		s/n 12	1, 122, 1	24-131 and	1 134,	135 t	o Liquid	Oxygen S	ystem.
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èe BC	CF 22-8 fo	r develo	pment co	st and in	corporatio	on of	Lox s	rstem in S	/N 132 a	nd 133.
REASON	N FOR PROP	OSAL:		The way						
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Reason	n for Revi	sion: T	submit	Target/C	eiling Pr	ice.	bi	fan c	-12 9 T-29	
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LOC	CHEED-CALIFORNIA COMPAN	Y EN	GINEERING ST	UDY [		10009000 LAC		7	
DATE			FECTS:	ري عمد				<b>6</b> .1	
	June 3, 1964	<del>,</del>						X X	·
	CONTROL STICK	PART OR I	LOWEST SUBAS	SSEMBLY 	P	ART NÒ. &	MODE	L OR TY	/PE
TITLE	OF PROPOSAL:	E CONTROL	STICK GRIPS	ON A-12	AND A	-12 ARTI	CLES		
NATU	RE OF PROPOSAL:	-	<del> </del>	<del></del>					
	lace presently used B-9								١
by (	out of magnesium. B-	s had 50%	of units fa	11. We	have de	veloped	a new	source	
for	the magnesium stick gr	ip. New u	mits will a	ulso be u	red on	the <b>R-22</b>	progr	en.	, all
		<b>经验</b>					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
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10010			CHANGE PROPOS	AL 1		, j		NF
DATE 27	October 1964		AFFECTS:			PROJE	ECT X	
	OF MAJOR COMPONENT	PART OF	R LOWEST SUBAS	SEMBLY	PA	RT NO. & A	MODEL O	R TYPE
TITLE OF	F PROPOSAL:  DRAG CH	UTE DEPL	OY HANDLE	······································				
NATURE	OF PROPOSAL:							
	gn effort, fabricatio pt a drag chute deplo			s to mod	lify 13 <i>l</i>	A-12 artic	cles to	
Inst	allation of handle is	not a p	art of this E	CP.				
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REASON	N FOR PROPOSAL:							
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FIREWELL CO.

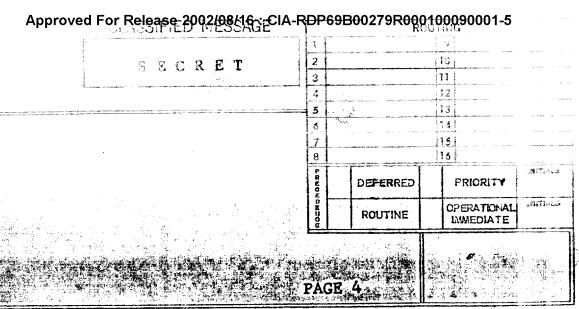
A. DEVELOP PARACHUTE SUPPORT BLOCK WITH OPTIMUM WEIGHT CHANGE RESPONSE TO INSURE MINIMUM WEIGHT OF PARACHUTE ON PILOTS SHOULDERS. IF POSSIBLE SPACE FOR SMALL SURVIVAL ITEMS SHOULD BE PROVIDED. PROTOTYPE

AVAILABLE 20 FEB 64.

- B. ON BASIS OF INDIVIDUAL PILOTS, CUSTOMIZE SEAT CUSHIONS FOR THE SURVIVAL KIT. REPORT ON PROGRESS ON AT LEAST ONE PILOT BY 1 MARCH 64.
- C. DESIGN PAN TO INCORPORATE NEW PARACHUTE RELEASES AND EMERGENCY OXYGEN SUPPLY IN PRESENT PARACHUTE CONFIG. EIGHTY CU. IN. OF OXYGEN TO BE SUPPLIED IN DUAL SYSTEM DESIGN.
- D. CONTINUE EFFORTS TO REDUCE SUIT CONTROLLER BACK PRESSURE. REQUEST REPORT ON PROGRESS BY 1 MARCH 64.

  DAVID CLARK CO.

THE RESIDENCE AND ADDRESS OF THE PARTY OF TH	·	
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INFO TO THE PARTY OF THE CITE OF

INCORPORATE A LIGHT WEIGHT OXYGEN MASK FOR USE IN THE

FPS HELMET WHICH WILL ALLOW THE PILOT TO FLY WITH FACE

VISOR IN THE UP POSITION WHILE AT NORMAL COCKPIT PRESSURE.

FACE VISOR SHOULD RESPOND AUTOMATICALLY IF COCKPIT

PRESSURE IS REDUCED. REPORT ON PROGRESS BY 1 MARCH 64.

- B. REPORT BY 1 MARCH 64 ON PROGRESS OF NEW DESIGN OF PRESSURE SUIT GLOVE.
- C. INVESTIGATE NEW APPROACHES TO INSURE LIGHTER WEIGHT HELMET AS DISCUSSED IN SUPPLIERS MEETING ON 29

  JAN 64. REPORT ON PROGRESS 15 MARCH 64.
- D. HAVE PROTOTYPE OF WEDGE SOLE SHOES AND NEW DESIGN SPUR BY 15 MARCH 64.
- E: INCORPORATE IN FLIGHT FEEDING PORT IN FPS
  HELMET BY 1 APRIL 64.

F. IMPROVE FPS WATCH POCKET DESIGN BY 1 APRIL 64.

25X1	G.	REQUEST	STATUS ON FAC	E BARRIER MO	ODIFICATION	ВХ
· · ·	1 MARCH	64.	COORDINATING OFFICE	ERS		
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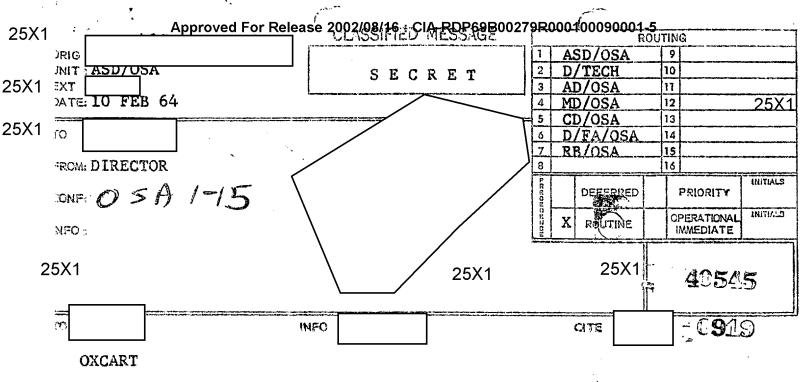
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LOCKHEED-CALIFORNIA COMPAN	ſΥ.	CHANGE PRO		$\mathbf{x}$	l,	A.C	22-1	.0	NR(
DATE January 20, 1964		AFFECTS:			$\overline{\mathbf{x}}$	PRO	JECT	$\square$	2
NAME OF MAJOR COMPONENT	PART C	OR LOWEST SU	JBASSEME	BLY	PART	NO. &	MODE	EL OR	TYPE
PRESSURIZATION SYSTEM	su	IT VENT LI	WE	-		AA-13	<u>-32</u>		
TITLE OF PROPOSAL :	SUIT VEN	vi air systi	em regui	ATOR		·			
NATURE OF PROPOSAL:			_			•			
No. 392518-1-1 to be instrained indicate pressure settings  REASON FOR PROPOSAL:  Present aircraft system many pressure suit, however impressure suit suit suit suit suit suit suit suit	eets all	AF-12 served for dif	ials 100 ference:  nts ference:	ol thm s in s; suppl	y of ai	Pash r to pi	lot!		
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increased oxygen usage du of suit. Installation of of pressure irrespective	pressu of marnu	re regulato al suit val	r will ve sett	more pring.	on impo	y monit	or st	TIPLIA MADELIA	216
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increased oxygen usage du of suit. Installation of of pressure irrespective  ES ESTIMATED COST AND TIM ADDITIONAL FUNDING RE-	pressured in Marian Mar	re regulato al suit val	r will ve sett	more pring.	Target	y monit	or st	TIPLIY	216
estimated cost and the additional funding results.  ES   ESTIMATED COST AND TIME    ADDITIONAL FUNDING RESULTS   ESTIMATED COST FOR KITS	pressured in Marian Mar	re regulato al suit val	ve sett	more pring.	Target	y monit	or st	TIPLIY	216
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2. F	Prepare for	and con	duct lig	htning te	sts on	a secti	on of	the nos	e.		
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	Prepare and	. submit	reports	on the re	sults o	of the s	bove t	tests.			
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EST. M. SOURCE NOT	AAN/HRS. REC	ANCE	CCOMPLISE	VBILITA.	IN FIELD				S AFTER	APPRO	



1. AS A RESULT OF THE SUPPLIERS CONFERENCE OF 29 JAN AT LAC DEALING WITH AEROMEDICAL AND LIFE SUPPORT SYSTEMS, THE FOLLOWING PRIORITY LISTING OF PROBLEM AREAS ARE DEFINED:

LAC

A. ASSUME RESPONSIBILITY OF DESIGNING A BALANCING

VALVE WHICH WILL INSURE EQUAL FLOW OF OXYGEN FROM BOTH

SYSTEMS. ACCEPTABLE TOLERANCE TO BE 200 PSI DIFFERENTIAL.

REQUEST BI-MONTHLY REPORTS ON THIS PRIORITY ITEM BE | ILLEGIB

SUBMITTED TO THIS HQS STARTING 1 MARCH 64.

B. INSTALL 1100 CU. IN. OXYGEN BOTTLES

IN AT LEAST ONE A/C BY 29 FEB 64.

ILLEGIB

C. CONTINUE PRESENT EFFORT TO INSTALL NEW REGULATOR
FOR SUIT VENT PRESSURE AT 10" - 40" OF H₂O AND APPROX.

12 CFM. IT IS UNDERSTOOD ONE WILL BE INSTALLED BY 1

MARCH 64, TWO BY 15 MARCH 64.

COORDINATING OFFICERS

COORDINATING OFFICERS

SECRET

AUTHENTICATING OFFICER

REPRODUCTION BY OTHER THAN THE ISSUING OFFICE IS PROHIBITED.

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## FIREWELL CO.

- A. DEVELOP PARACHUTE SUPPORT BLOCK WITH OPTIMUM WEIGHT CHANGE RESPONSE TO INSURE MINIMUM WEIGHT OF PARACHUTE ON PILOTS SHOULDERS. IF POSSIBLE, SPACE FOR SMALL SURVIVAL ITEMS SHOULD BE PROVIDED. PROTOTYPE AVAILABLE 20 FEB 64.
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  DAVID CLARK CO.

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	E. EXPEDITE INVESTIGAT  OR ROTATING RUDDER PEDALS TO  LEGS.  F. PROCEED WITH QUALIF  INCORPORATING STABILIZATION	ENABLE PILO	r to stra	ighten Release	
	PARACHUTE DEPLOY IN ONE DEVI				
	QUALIFICATION OF THIS DEVICE BY LAC. REQUEST QUALIFICATI	ON TESTS AND	THEIR RE	SULTS	25X1
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	H. INVESTIGATE THE POS	STRILITY OF	INSTALLIN	G THE	
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	BETWEEN			:	25X1
	COORDINATING OFF		<del>(7)</del>		

AUTHENTICATING OFFICER

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RELEASING OFFICER

Approved For Release 2002/08/16	CIA:RDP69B00279R000	100090001-5
LOCKHEED CALIFORNIA COMPANY CHAN	GE PROPOSAL	LAC 22-16
DATE April 30, 1964 AFFEC	тs:	PROJECT 🔯 25)
NAME OF MAJOR COMPONENT PART OR LOW	EST SUBASSEMBLY	PART NO. & MODEL OR TYPE
TITLE OF PROPOSAL: Oxygen System Low Pre	ssure Warning Light	-
Addition of low pres additional pressure switch will be conn pressure switch both high and low press common warning light. S/N 121, 122, 12 thange.	ected to existing li	ght. Upon addition of
REASON FOR PROPOSAL :		
1. Headquarters message	Requests	<b>200</b>
stated in the origi	mal request for this PVP \$2-18 Lox Return this system.	light is a necessity the balance valve provided this installation as light by she Area. The solution of the so
ES ADDITIONAL FUNDING REQUIRED :		
AUDITIONAL FUNDING REQUIRED ;	page 2) Engr. an	
SAPETY MISSION PERFORM OPERATING INTER- WE TIVENESS ANCE PROCEDURE CHANGE ABILITY	EIGHT OR TOOLS & MAINTE	SERVICE FLIGHT MAINTE
	EIGHT & SUPPORT NANCE ALANCE EQUIPMENT PROCEDU	RE LIPE MANUAL NANCE MANUAL
EST. MAN/HRS. REQ'D. TO ACCOMPLISH CHANGE II	N FIELD	
SOURCE OF PARTS FOR KIT  Service Bulletin will be provided	AVAILABILITY	WEEKS AFTER APPROVAL
DISPOSITION OF SPARES AFFECTED		STAT
INITIATED BY: Project Headquarters	APPROVED:	NR(0 25)
Approved For Release 2002/08/16 ·	CIA-RDP69B00b79R000	100d90001-5

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DATE 1	2 March 196	<u></u>		AFFEC	CTS:			L	PRO	JECT	X	N
·	F MAJOR COA		PART	<u> </u>	WEST SUB	ASSEMBLY		PART	NO. &			TYPE
	PROPOSAL:	REVIS	ED THE	S RACK	Install	ATTON						
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DATE	2 Septembe:	r 1964		AFFEC	CTS:			PRO	JECT X	
NAME	OF MAJOR	COMPONEN	NT PAR	T OR LOV	WEST SUBA	SSEMBLY	P	ART NO. &	MODEL C	OR TYPE
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	CALIFORNIA COM	PANY	CHANGE PRO					22-11-	1	NF	२०
DAT	E 20 November 1964	1	AFFECTS:				P	ROJECT	X		25X
<b>I</b>	ME OF MAJOR COMPONENT gen System	PART OR	LOWEST SU	JBASSEM	BLY	P	ART NO.	& MODEL	OR	TYPE	
TITLE	OF PROPOSAL: OXYGEN	SYSTEM BA	LANCE VAL	/E							
NAT	URE OF PROPOSAL:			·····		<del></del>			<del></del>	<del></del>	-
1.	Design and development	of Oxygen	n System I	alance	Valve.	•					
2.	Design, fabrication ar	d assembly	y of kits	requir	ed to :	insta	11 the	Balance	Valv	e.	
3.	The Balance Valve will Balance Valve will be Installation cost is n	be install removed un	lled in 12	gase	o.		system .		craf	t.	9 2
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CP	ESTIMATED COST FOR KITS ADDITIONAL FUNDING REQ		Page 2.		get Proling Po				ST	АТ	,
ITEMS	AFFECTED BY PROPOSAL:						<del></del>		<del></del>		* } !
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EST. N	AAN/HRS. REQ'D. TO ACCOM	PLISH CHAN	GE IN FIELD	)	<del></del>		<del></del>	<u> </u>	<u> </u>	<u></u>	
1	CE OF PARTS FOR KIT ICE BULLETINS 552 & 609		AV	AILABILIT	Υ	V	VEEKS AFT	ER APPRO	JAV		
	SITION OF SPARES AFFECTED	**************************************			<del></del>	<del></del>	· · · · · · · · · · · · · · · · · · ·				
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THORE	CT HEADQUARTERS			•						- 1	1,

	CKHEED-CALIFORNIA COMPA	MY	NEERING STUDY	[] <b>X</b>	LAC	22-11	NRO
DATE	12 March 1964	AFFE	cts:		PRO	DJECT X	25
	OF MAJOR COMPONENT rgen System	PART OR LOV	WEST SUBASSEM	NBLY	PART NO. &	MODEL (	OR TYPE
TITLE (	OF PROPOSAL:	lystem Balane	ce Valve	* .			
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	system. Yalve						
	operation. Upo valve, shutting operational sys	off failing					
	valve, shutting operational sys	off failing tem.	g system and		pilot to r		
ES	valve, shutting operational sys	e involved :	g system and	allowing	pilot to r		ing
	valve, shutting operational sys	e involved : UIRED : OR PARTS:	g system and	allowing	pilot to r		ing
ES CP	valve, shutting operational sys STAT  ESTIMATED COST AND TIME ADDITIONAL FUNDING REQ ESTIMATED COST FOR KITS	e involved : UIRED : OR PARTS:	g system and	allowing	pilot to r		ing
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DATE	14 Januar	y 1965		AFFEC	TS:			PRO	DJECT Z	
	F MAJOR C	COMPONENT DEDER	PART	OR LOV	VEST SUBA	SSEMBLY		PART NO. &	MODEL	OR TYPE
TITLE OF	PROPOSAL	· PILOT	voice	RECORDE	<b>3</b> R					
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LOCKHEED - CALIFORNIA COMPANY			
CHANGE PROPOSAL XX	ILAC	22-27-1	
GIANGE TROTOSAL MA			
DATE 2 December 1964 AFFECTS:	PR	OJECT 7	}
NAME OF MAJOR COMPONENT PART OR LOWEST SUBASSEMBLY	PART NO. 8	MODEL C	R TYPE
TITLE OF PROPOSAL: MAP CASE DESTRUCT SYSTEM			
NATURE OF PROPOSAL: Design, fabrication and assembly effort required to provi S/N's 122, 125-132 with a destructible map case.	ide kits to e	quip A-12	2
The system allows for destruction of maps upon initiation system or upon pilot ejection. Map cases will be made out will be placed in right hand and left hand cockpit consol have capacity for four (4) map holders. Upon initiation be injected through top of map case and gaseous nitrogen bottom; nitrogen will cause liquid to circulate, ensuring	ut of plastic les. Each ma of destruct, will be inje	materia: p case w: fluid w:	l and ill ill
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A. ECP 22-6-1 INCLUDES MODIFYING 26 "A" UNITS IN A-12'S, 24 "B" UNITS IN KC-135'S AND THE EQUIVALENT OF 5 UNITS FROM SPARES. SUGGEST FIRST SENTENCE BE REWORDED AS FOLLOWS:

"THIS ECP INCLUDES THE EFFORT REQUIRED TO MODIFY ALL OF THE AIRBORNE ARC-50 EQUIPMENT AND COMPONENTS, BOTH A-12 AND KC-135, TO THE "Y" CONFIGURATION."

B. ECP 22-32 - BECAUSE OF THE SHORTCOMINGS OF THE FIREMARNING SYSTEM
NOW BEING USED ON THE A-12, NUMEROUS PREMATURELY ABORTED FLIGHTS AND UNNECESSARY
ENGINE REMOVALS WERE INCURRED. THE RESPONSIBILITY FOR THESE ABORTS AND REMOVALS
WOULD AFFEAR TO LIE WITH YOU WHO, IN THE FINAL ANALYSIS, ARE OBLIGATED TO PROVIDE

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A SATISFACTORY FIREWARNING SYSTEM. THEREFORE WE FEEL THAT PROFIT, IF ANY, FOR THIS ECP IS SUBJECT TO FURTHER DISCUSSIONS.

- * FIRM TARGET AND CEILING PRICE
- ** BUDGET ESTIMATES

END OF MESSAGE

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DATE 3 June 1964	AFFEC	CTS:			PRO	DJECT X	]
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то	NFO	25X1	СІТЕ		2
OXCART  SX1  FROM				•	
SUBJECT: DESTRUCT SYST		, , b ,			
1. TEST ON PROJECTOR COLOR FILM BACKED WITH (					
DESTRUCTION.			EVED APPAREN		
X1 2. ALTERNATE ROUTE D	ATA, BACK-	JP AND EMERGE	NCY DATA. PL	.ys	
OF STRIP MAP COVERA  OF FILM. SAME DATA BUT  INCLUDED ON OF FIL	GE IN VN SO STRIP MAP O	CALE CAN BE I	NCLUDED ON ON COMPANY OF SCALE CAN		
3. FINAL TESTS TO BE SAMPLES FOR YOUR INSPECT	CONDUCTED			IT	
4. E.C.P. NUMBER 22-		*	EN PREPARED,	AND	
5. TESTS CONDUCTED T			F Water colu	D1 C	
MAPS INDICATE COMPLETE D					
ſ		The state of the s	GROUP 1 Excluded from outerantic		

IN 80422

SECRET

PAGE 2

BUT THAT SOME LARGE PIECES OF RESIDUE OFTEN REMAIN INTACT.

EXAMINATION OF THESE PIECES, USING NATURAL, IR, AND UV LIGHT, FAIL

TO PRODUCE READABLE OR OTHERWISE DISCERNABLE DATA, HOWEVER.

- 6. WE PLAN A FEW MORE TESTS ON THIS EQUIPMENT NEXT WEEK, AND WILL SEND SAMPLES FOR YOUR INSPECTION, IF DESIRED.
  - 7. E.C.P. COVERING INSTALLATION IN VEHICLES IS IN PREPARATION.
- 8. OUR EFFORTS ON THE REQUIRED TAPE VOICE RECORDER TO DATE HAVE BEEN LIMITED TO A SEARCH FOR A SUITABLE UNIT AND CONSIDERATION OF LOCATION IN VEHICLE.

END OF MSG

- 1779本を理論を表現し	or Release 2002/08/16 : CIA-RD	DP69B00279R000100090001-5	
icc Evaluans	CLASSIFIED MESSAGE	ROUTING	
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FO DIRECTOR		6 0F-4 14 7 83 15 8 16	
ACTION: OSA 1-15	Harel	ROUTINE	
TOR: 1927Z 15 APR 64 25X1		IN 7352	7
OXCART  25X1  ATTN:  SUBJECT: PROJECTOR FILE	M DISTRUCT	CITE THE ONLY	25X1
		RT SHOWED THAT THE ONLY USE OF NITRATE BASE COLO	R
FILM.  2. LACK OF THE AB  TESTS TO PROVE OPERAT  3. A PARTIAL SHIP		SYSTEM QUALIFICATION  D SUFFICE FOR THESE TEST	ſs.
•	END OF MESSAGE	•	25X1

SECRET

GROUP 1 Excluded from outerwrite downgreeding and declassification

25X1	(IN 65171) SECRET PAGE TWO
•	WILL UTILIZE SPACE WHICH IS NOT AVAILABLE.
	C. AT PRESENT, UNDER NO CIRCUMSTANCES DOES THE MAP DESTRUCT
	SYSTEM COMPLETELY DESTROY THE MAPS.
25X1	NO SERIOUS EFFORT IS BEING PUT FORTH TO
	DEVELOP A DESTRUCT SYSTEM OR MAKE A DECISION WHETHER OR NOT
•	DESTRUCTABLE MAPS SHOULD BE CARRIED ON THE AIRCRAFT. IF THE INTENT
	IS NOT TO CARRY DESTRUCTABLE MAPS, THEN, FEELS
	THAT THE FILM DESTRUCT SYSTEM SHOULD BE ALSO DISCONTINUED. IF,
	HOWEVER, THE DECISION IS TO CARRY DESTRUCTABLE MAPS, THEN CONCERTED
	EFFORTS SHOULD BE PUT FORTH TO DEVELOP A NEW DESTRUCT METHOD OR
	ATTAIN A LEVEL OF RELIABILITY AND PERFORMANCE WHEREBY THE OLD
* * * * * * * * * * * * * * * * * * *	METHOD WOULD SATISFY THE REQUIREMENTS OF THE PROGRAM. YOUR
•	COMMENTS ARE REQUESTED.

END OF MESSAGE

SECRET

OXC 4438 Copy Lof

OFEB 1963

MEMORANDUM FOR:

Assistant Director, OSA

SUBJECT:

Water Destruct System for Special Paper Maps,

IDEALIST/OXCART

There is an obvious lack of priority assigned by Lockheed for the design and installation of the equipment required to utilize the special water soluble maps presently being produced

In compliance with a recommendation from General Doolittle, member of the President's Foreign Intelligence Advisory Board, a working group was established, on 9 August 1962, to provide projects IDEALIST and OKCART with maps and charts which are capable of emergency destruction. Attendance at this meeting included headquarters representatives from Operations, Development, Intelligence and Materiel. Outside agency representatives included and Lockheed.

Research and development work was completed by the Technical Services Division (TSD) to provide paper maps which will dissolve when submerged in water. The Materiel Division procured the necessary special paper is currently in production on particular series chart's as specified by the Intelligence Staff. Completion of the entire production is estimated by 1 March 1963.

25X1

25X1

3. The IDEALIST/OXCART vehicles must be equipped with a map container and suitable water reservoir, plumbing, valves and activation device in order that the map container may be flooded with water if an emergency so dictates. This particular requirement, established 9 August 1962, has not proceeded concurrently with map production. Therefore, we will shortly be faced with completed water-soluble charts, but with no existing storage/destruct system available for their use. The result will be a delay in operational employment of the charts unless Lockheed is encouraged to complete their testing and installation of the necessary equipment. To date, two fiberglas prototype containers have been produced and temporarily taped in one of the ONCART vehicles. Two additional containers have

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OXCART X1	THE FOLLOWING ECP'	's are technically appro	CE DESC		TED	25

A. ECF 22-6-1 INCLUDES MODIFYING 26 "A" UNITS IN A-12'S, 24 "B" UNITS IN KC-135'S AND THE EQUIVALENT OF 5 UNITS FROM SPARES. SUGGEST FIRST SENTENCE BE REWORDED AS FOLLOWS:

"THIS ECP INCLUDES THE EFFORT REQUIRED TO MODIFY ALL OF THE AIRBORNE ARC-50 EQUIPMENT AND COMPONENTS, BOTH A-12 AND KC-135, TO THE "Y" CONFIGURATION."

B. ECP 22-32 - BECAUSE OF THE SHORTCOMINGS OF THE FIREWARNING SYSTEM
NOW BEING USED ON THE A-12, NUMEROUS PREMATURELY ABORTED FLIGHTS AND UNNECESSARY
ENGINE REMOVALS WERE INCURRED. THE RESPONSIBILITY FOR THESE ABORTS AND REMOVALS
WOULD APPEAR TO LIE WITH YOU WHO, IN THE FINAL ANALYSIS, ARE OBLIGATED TO PROVIDE

	COORDINATING OFFICERS	7.	
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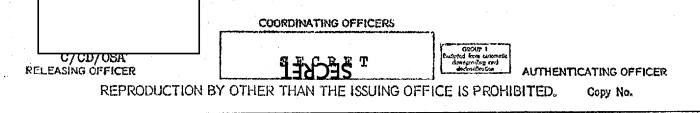
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A SATISFACTORY FIREWARNING SYSTEM. THEREFORE WE FEEL THAT PROFIT, IF ANY, FOR THIS ECP IS SUBJECT TO FURTHER DISCUSSIONS.

- * FIRM TARGET AND CEILING PRICE
- ** BUDGET ESTIMATES

END OF MESSAGE

25X1



28 July 1964

25X1

John Parangosky To:

Bubject:

CT-22 BCP's WY '64 and WY '65

Reference: Letter CLJ to John P. dated 6 July 1964

Under a separate letter we are forwarding to you copies of ECP's 22-6-1, 22-7-1, 22-27, 22-28, 22-31, 22-32 and 22-48. You will note that these BCP's were listed in the referenced letter with different dollar values. The differences are due to better information and deletion of Article #133.

The attached revised ECP listing is being forwarded to you so that you will have the latest information available. Item 22-49 has been added as a result of the meeting last week at LAC.

Sincerely,	25X1

### STATUS LEGEND

A	· ECP Submitted and Approved
В	ECP Submitted and Not Yet Approved
C	ECP Not Yet Submitted
D	Job Underway or Completed
E	Job Not Yet Started

6-30-64

BUDGETARY ESTIMATE

PRICE CEILING

STATUS

ITEM NO. ON 4-30-64 LIST

STAT

TITLE/DESCRIPTION

(

201 1100			
22-1-1		N/A	A & D
22-2-1/		N/A	A & D
22-3-1		N/A .	A & D
22-4-1		n/a	A & D
22-5-1		N/A	A & D
22-6-1	ARC-50 DE Improvements	N/A	A & D
22-7-1	AFC-50 Ground Stations	n/a	A & D
22-8-1	LOX Installation in #132 and #133 (See ECP)	N/A	A & D
22 <b>-</b> 9 <b>-</b> 1 22 <b>-</b> 9 <b>-</b> 2	Lightning Tests - Rudder (See ECP) Added Lightning Tests - Nose Section (This will look at lightning effects on communications equipment in the nose section).	N/A N/A	A & D C & D
22-10	Suit Venting Air System Regulator (See ECP)	N/A	A & D
22-11	Oxygen System Balance Valve (See ECP)	N/A	A & D
22-12 22-12-1 STAT	A-12 Parachute Improvement Program - Phase I (See ECP) A-12 Parachute Improvement Program - Phase II (This covers the equipment LAC is providing for El Centro tests, qualification of the steel 400 foot catapult, and LAC manpower to help conduct tests).	n/a n/a	A & D C & D
22-13 22-13-1	A-12 Periscope Improvement - Forward Look Study (See ECP) Additional Periscope Work - Provide prototype Lens	n/a n/a	A & D C & D
22-14	Revised I.N.S. Rack (See ECP)	N/A	A & D
22-15		N/A	A & D
22-16	Oxygen System Low Pressure Warning Light (See ECP)	N/A	A & D
22-17	Replace Control Stick Grips (See ECP)	18	A & D
22-18	Retrofit of LOX System in A-12's (See ECP)	N/A	A & D
22-19		17	A & D
22-20		17	A & D
22-21		17	A & D
22-22		1	B & D
		_	

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Т		TITING DECORDS	1	22	C & D	STA
	22-23	1				
		1				
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		ı		30	C & D	
	22 <i>-</i> 214	Drag Chute Deploy Handle -	+	10	0 % 5	
	2	Drag Chute Deploy Handle - (Replaces the switch which presently accomplishes this job).				
	22-25	, it Obuder -		N/A	C & D	
	22-25	Aero-Med. Instrumentation Study  (Covers time to familiarize LAC personnel with equipment provided by HQ's, and run environmental tests on				
-		pilot.		N/A	A & D	
	22-26	Periscope Projector Film Destruct (See ECP)		N/A	B & D	
	22-27	5 - 1		N/A		
	<del></del>	Map Case Destruct - See Mar (Provides Map Cases and system required to destruct maps).				
	22-28	mape)		N/A	B & D	
	22 <del>-</del> 20					and the second of the second
•				N/A	C & D	
	22-29	Pilot Voice Recorder - (Assumes that LAC will provide recorder . Voice				
		recorder must have destruct capability,		2	C & E	
	22-30 *	Compressor Inlet Pressure Indicating System	arri	3	B & E	
	22-31	SR-3 - Improved Gyro Heading Reference System - See E (This is a backup for the INS. Testing to be done	1			
		under Jet 250).		n/a	B&D	•
	22-32	Improved Fire Warning System - See ECP (This system is sensitive to local overhead problems.			-	
		(This system is sensitive to local overline input from Sensing device is dual system requiring input from the system requiring to pilot.				
		Sensing device is dual system requiring to pilot. both parts in order to transmit warning to pilot. Sensing element made by Fenwall).		_	2 * D	
	22-33	a at weeth Transpage Wits -		7	C & D	
	22-33	(This includes provisions for some functional systems changes).				

			STAT			k.W.	a de francisco de figilia. Transporta	1 1.0	Marie de la companya br>De la companya de la	6-30-64 Revised 7-28-64
		ECP NO.	TITLE/DESCRIPTION	Buigetari Estimate	FIRM TARGET	PRICE CEILING	ITEM NO. ON 4-30-64 LIST	STATUS		
AT		22-34 *				VIII	13	C & E		
									,	
		22-35 *	Fuel System Readout Improvement - (Provides additional probes for attitude problem).				n/a	C & E		
	(.	22-36 *	Develop and Build Three (3) Airplane Control Servo System Checkout Carts				4	C & E		
		22-37 *	I.N.S. Improvements - LAC Airplane changes as result of Honeywell effort.				5	C & E		
		22-38 *	Hydrogen Engine Start Modifications - (LAC Airplane changes as result of P&W changes in engine start fuel).				6	C&B		
		22-39 *	New Servo Valves for Intersystem Leakage - (This incorporates R-12 type equipment into A-12's and eliminates need for reserve oil tank).				9	C & E		
		22-40 *	Dual Initiator Qualification Program				N/A .	C & E		
ΛT		22-41 *					15	C & 30		
		22-42 *				ŀ	N/A	C & E		
		22-43 *					N/A	C & E		
		55 <b>-</b> 177 *	Improve Pilot Fuel Control Capability - (Incorporates servo system to give pilot better ability to operate the fuel control system).				N/A	C & E		
		22-45 *	Enlarge Nitrogen System - (Increase the capacity of the nitrogen system to that required for the R-12. This will require a major modification to the nose wheel well).				n	C&E		
		22-46 *	Fuel Remaining Instrumentation - (Provide a visual count down of the fuel quantity used. Present system will be retained).				12	C & B		
		22-47 *	Improvements to ARC-50 ADF Antennas				19	C & E		
		22-48	Retrofit ADP Inlet Control in Four (A) A-12's				N/A	B & E		
		22-49	Fuel Management Revision				n/a	C & D		

16 March 1964

STAT	To: John Par  Subject: Transmit	angosky tal of Engineering Change Proposals -	- Contract CT-22	2
·	Transmitted herewi	th for your consideration and approve lowing change proposals: EILING PRICE NEGOTIATION:		
	ECP No.	<u>Title</u>	Proposed Ceil:	ing Price
STAT	22-1-1		1	
	<b>√22-2-1</b>			
	-22-3-1			
	<b>22-4-1</b>			
	<b>√22-5-1</b>			
	<b>~ 22-10</b>	Suit Vent Air System Regulator	<b>†</b>	
	<b>22-14</b>	Revised INS Rack Installation		
	II. PROPOSED AS BU	DCETARY ITEMS		
	ECP No.	<u> Title</u>	Budgetary	Estimate
	~22-11	Oxygen System Balance Valve		
	√22 <b>-</b> 12	Thinner, Lighter Parachute		
	<b>22-13</b>	Increased Forward Look Study - P	'eriscope	
STAT	<b>22-1</b> 5			
			·	STAT
STAT	ce:	Incl copies of previously submitted ECP Nos. 22-6,22-7,22-8 and 22-9.		
		•	Kelly	

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SUBJECT: VOICE RECORDER

- 1. TESTS ON SEVERAL SMALL MAGNETIC TAPE RECORDERS HAVE LED TO THE SELECTION OF THE NO. 7450-511-7797 DICTAPHONE PORTABLE TAPE RECORDER, DICTETTE. THIS SELECTION WAS BASED ON SUCH FACTORS AS DURABILITY IN THE ANTICIPATED ENVIRONMENT, ADAPTABILITY TO THIS SPECIFIC USE, PERFORMANCE, AVAILABILITY AND COST.
- 2. THIS IS A RUGGED AND WELL BUILT UNIT, AND HAS BEEN USED WITH SUCCESS IN THE FLIGHT TEST PROGRAM.
- 3. MINOR MODIFICATIONS TO THE PRODUCTION UNIT ARE REQUIRED TO PERMIT ITS USE IN THIS APPLICATION. THESE MODIFICATIONS INCLUDE:
- A. REWIND TAPE MAGAZINES WITH 1/2 MIL MYLAR TAPE IN LIEU OF STANDARD 1 MIL TAPE. THIS DOUBLES NORMAL CAPACITY, CHANGING IT FROM 20 TO 40 MINUTES.
- B. ADJUST TAPE DRIVE MOTOR GOVERNOR SPEED. THIS INCREASES CAPACITY TO ONE HOUR. ANOTHER MODIFICATION, A CHANGE IN THE MOTOR GEARING, HAS PERMITTED A FURTHER TIME EXTENSION TO

  1.25 HOURS, BUT DEGRADATION OF QUALITY IS THEN APPARENT SO

SECRET

GROUP 2 EXCLUDED FROM AUTO-MATIO DOWNGHAUING AND DECLASSIFICATION

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<b>Z</b> J/	ı

(IN 62238)

SECRET PAGE TWO

THIS IS NOT RECOMMENDED.

- ADAPT UNIT TO OPERATION FROM AIRCRAFT'S 28 VDC POWER, ELIMINATING THE CONTAINED BATTERY. THE CAPACITY OF THE BATTERY IS NOT COMPATIBLE WITH THE INCREASED TAPE CAPACITY. IN ADDITION. THE CHANGE IN BATTERY CONDITION THROUGHOUT ITS USEFUL LIFE INTRODUCES A CHANGE IN TAPE DRIVE MOTOR SPEED. WITH RESULTANT DISTORTION.
- 4. ONE RECORDER HAS BEEN SO MODIFIED. A MULTI-CONDUCTOR CABLE HAS ALREADY BEEN ADDED TO PERMIT PLUGGING IT INTO ALL AIRCRAFT AS PART OF THE AUDIO CLEAN-UP BULLETIN.
- 5. THIS MODIFIED RECORDER HAS BEEN FLIGHT TESTED AND IS DEEMED TO BE SATISFACTORY. IN THE FLIGHT TEST PROGRAM WE HAVE BEEN RECORDING ALL RADIO TRANSMISSIONS AS WELL AS INTERPHONE TALK. THE RECORDER HAS BEEN TRIGGERED BY OPERATING THE MIKE BUTTON. SO USED, DATA FROM A 1.25 HOUR FLIGHT OCCUPIED ABOUT 10 MINUTES OF TAPE TIME. WE PLAN TO ADD ANOTHER SWITCH FOR OPERATIONAL USE THAT WILL PERMIT THE PILOT TO SELECT USE OF THE RECORDER AT WILL. THIS SHOULD PROVIDE A STILL BETTER RATIO OF FLIGHT TIME TO RECORD TIME.
- EARLIER TESTS ON A VOICE OPEPATED RELAY RESULTED IN ABANDONING USE OF THIS DEVICE BECAUSE THE TRIEGER LEVEL COULD NOT BE REDUCED TO BELOW THE NOISE THRESHOLD LEVEL OF THE OXYGEN BREATHING EQUIPMENT.
- TAPE DESTRUCT TESTS HAVE BEFN CONDUCTED. USING A TAPE MAGAZINE IN WHICH THE TAPE IS WOUND BETWEFN TWO PLATES OF PYROFUSE FOIL. WHEN ACTUATED ELECTRICALLY, THERMO-CHEMICAL ACTION OF THE FOIL BURN WITH HIGH HEAT AND MELTS THE TAPE.

25X1

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	•		
	(IN 62233)	SECRET	PAGE THREE
SUFFICIENT	THICKNESS, TO	ACHIEVE 100 PERC	ENT DESTRUCTION IN
THE MAGAZIN	E HAS NOT BEEN FULLY :	SUCCESSFUL BECAUS	SE BURNING CANNOT
BE SUSTAINE	D FROM A SINGLE SQUIB	. WE ARE CURRENT	TLY CONDUCTING
TESTS USING	A LAMINATE OF	EACH L	AYER BEING IGNITED
SEPARATELY.	. WHEN WE ARE SATISIF	IED THAT WE HAVE	A SATISFACTORY
DESTRUCT SY	STEM, WE PLAN TO SACR	IFICE ONE DICTET	TE TO DETERMINE
ITS HEAT SI	INK CHARACTERISTICS AND	D TO ESTABLISH T	HE EXTENT OF
PROBABLE DA	MAGE TO SURROUNDING ST	TRUCTURE SHOULD	THIS BE
TRIGGERED A	CCIDENTALLY.		

9. DICTETTES ARE READILY AVAILABLE FROM A LOCAL SOURCE.

END OF MESSAGE

SECRET

Next 10 Page(s) In Document Exempt

# Approved For Release 2002/08/16 : CIA-RDP69B00279R000100<del>090001-5</del>

3 December 1964

To:

Contracting Officer - Contract CT-22

Subject:

TRANSMITTAL OF ENGINEERING CHANGE PROPOSALS

Transmitted herewith for your consideration and approval are four (4) copies of the following Change Proposals. These ECP's are proposed on a Target/ Ceiling Price basis.

	ECP	m2 + 1 -	Contract CT-22 ECP	Estimated Related Program Costs	Estimated Total	STAT
	No.	Title	Ceiling Price	(Other Contracts)	Program Costs	_
	22-7-2	ARC-50 Ground Stations				
	22-9-2	Lightning Tests				
	22-11-1	Oxygen Balance Valve				
	22-12-1	A-12 Parachute Program				
	22-13-1	Periscope Improvements				
TAT	22 <b>-</b> 23					
	22 <b>-</b> 24	Drag Chute Deploy Handle				
	22-27-1	Map Case Destruct System				
		•				

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cc:		
	Approved For Release 200	02 08/16 : CIA-RDP69B00279R000100090001-5

## Approved For Release 2002/08/16 : CIA-RDP69B00279R000100090001-5

2 December 1964

To:

Contracting Officer, Contract CT-22

Subject:

TRANSMITTAL OF ENGINEERING CHANGE PROPOSALS

Transmitted herewith for your consideration and approval are four (4) copies of the following Change Proposals. These ECP's are proposed as budgetary items.

STAT

ECP No.	Title	Contract CT-22 ECP Budgetary Estimate	Estimated Related Program Costs (Other Contracts)	Estimated Total Program Costs
22 <b>-</b> 30	Compressor Inlet Pressure Indicating System			
22 <b>-</b> 35	All Attitude Fuel Quantity System			
22-36	Airplane Control System Checkout Carts			
22-43				
22-49	Fuel Management Revision			
22-58	Oil Pressure Transmitter			
22_62	AF-12 Seat and Parachute Revision (Previously sent t Temp with letter from Rus)	to		
22-63	Fuel Cooler (Previously set to John with letter from K	nt elly)		
22-64	Fuel Qty. Mod.to KC-135's			
22-65	ARC-50 Mod. to KC-135's			
22-66	Alternate Steering for AF-	12's		

STAT

**STAT** 

cc:

Approved For Release 2002/08/16: CIA-RDP69B00279R000100090001-5

STAT

3 December 1964

To:

Contracting Officer - Contract CT-22

**STAT** 

Subject:

TRANSMITTAL OF ENGINEERING CHANGE PROPOSALS

Transmitted herewith for your consideration and approval are four (4) copies of the following Change Proposals. These ECP's are proposed on a Target/ Ceiling Price basis.

_	Tice pasis.	Contract CT-22	Estimated Related Program Costs	Estimated Total
ECP No.	Title	ECP Ceiling Price	(Other Contracts)	Program Costs
22-7-2	ARC-50 Ground Stations			
22-9-2	Lightning Tests			
22-11-1	Oxygen Balance Valve			
22-12-1	A-12 Parachute Program			
22-13-1	Periscope Improvements			
22 <b>-</b> 23				
22 <b>-</b> 24	Drag Chute Deploy Handle	 		
22-27-1	Map Case Destruct System	n.		
				STAT

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Approved For Release 2002/08/16: CIA-RDP69B00279R000100090001-5

OSA -5535-64

2 December 1964

To:

Contracting Officer, Contract CT-22

Subject:

TRANSMITTAL OF ENGINEERING CHANGE PROPOSALS

Transmitted herewith for your consideration and approval are four (4) copies of the following Change Proposals. These ECP's are proposed as budgetary items.

STAT

STAT		ECP No.		Contract CT-22 ECP Budgetary Estimate	Estimated Related Program Costs (Other Contracts)	Estimated Total Program Costs
		22-30	Compressor Inlet Pressure Indicating System			
	7	22-35	All Attitude Fuel Quantity System			
		22-36	Airplane Control System Checkout Carts			
STAT		22-43		$\rceil$		
		22-49	Fuel Management Revision			
:		22-58	Oil Pressure Transmitter			
		22 <b>-</b> 62	AF-12 Seat and Parachute Revision (Previously sent to Temp with letter from Rus)			
:		22-63	Fuel Cooler (Previously sent to John with letter from Kel			
		22-64	Fuel Qty. Mod.to KC-135's			
1		<b>22-6</b> 5	ARC-50 Mod. to KC-135's			
		22-66	Alternate Steering for AF-12	18		

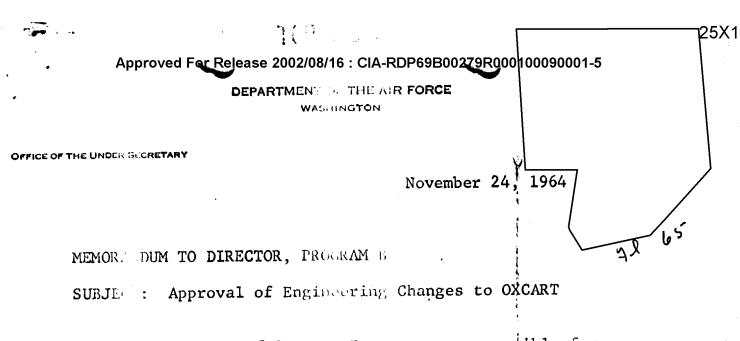
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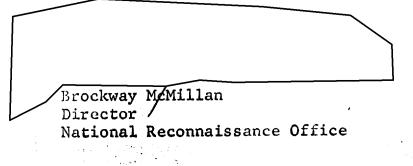
Approved For Release 2002/08/16: CIA-RDP69B00279R000100090001-5



As Director of Program B, you are responsible for reviewing all ECP's and ECO's prior to approval or disapproval determinations. Because of the importance of the control of engineering changes at this stage of the OXCART program, I desire that you modify your existing procedures so the I may have an opportunity to review all major ECP/Foo's being considered. Effective immediately, any grange order estimated to exceed a total cost of NRO 25X1 plies to the Lockheed contracts will require my NRO 25X1 appro al before execution. All changes will omtinue to be approved under your personal authority. I request that you do not delegate this authority any Sucth. .

proposed changes requiring my approval will be submitted as necessary and should include the results of your review together with your recommendations for approval or disapproval. In addition, require that you report to me all changes which you have approved and on a reasonably current basis.

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DOD D.R. 5200.10 DOES NOT APPLY

Centrel No.

Approved For Release 2002/08/16: CIA-RDP69B00279R000100090001-5

8 January 1964

**ILLEGIB** 

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To: John Parangosky

Subject:

Transmittal of Budgetary Engineering Change Proposals

Contract CT-22

Transmitted herewith for your consideration and preliminary approval are two copies each of the following engineering change proposals:

STAT

ECP No.	Title	Budgetary Estimate
22 <b>-</b> 1		
22 <b>-</b> 2		
22 <b>-</b> 3		
22 <b>-</b> 4		
22 <b>-</b> 5		
22 <b>-</b> 6		
22 <b>-</b> 7	ARC-50 DME Improvement	
22 <b>-</b> 8	L.O.X. Installation in #132 & #133	
22-9	Lightning Tests	
ECP Totals		

Our effort on these ECP's is being charged to Contract CT-22. You will appreciate that these are all budgetary estimates which we will finalize as soon as the scope of effort can be determined.

We deem it advisable to prepare these preliminary ECP's in a very brief form to afford you and your staff the opportunity to remain knowledgeable of the numerous special packages in process and of the "ball park" cost involved.

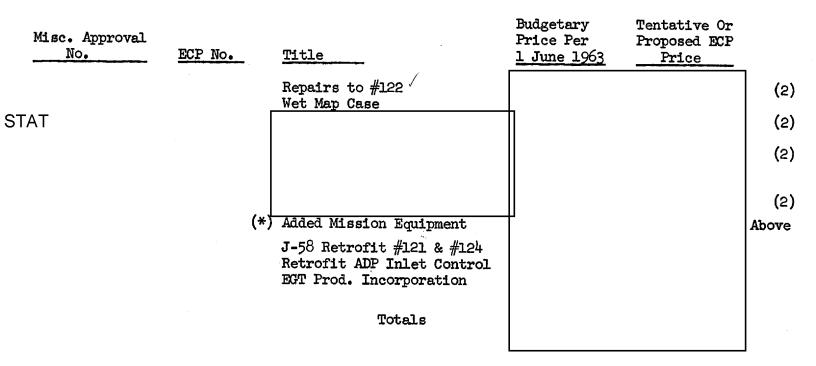
Many of these installations are being installed in airplane #131. We propose to accomplish the necessary flight test of these packages against Contract FT-21.

Very truly yours,	NRO	25X1
	''''	20/(1

Next 1 Page(s) In Document Exempt

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Summary Of DK-3559 ECP's To Be Negotiated (Cont'd)



- (1) Already submitted.
- (2) Work already started on verbal approval or otherwise.

STAT Approved For Release 2002/08/16 : CIA-RDP69B00279R000100090001-5 been forwarded to Edwards AFB for use in IDEALIST vehicles. This initial test work is not being agressively pursued by Lockheed and indications are that final system installation is in the distant future.

4. Operational training is highly desirable in the use of both the maps (changes in format) and storage/destruct systems prior to operational employment. ONCART programming indicates the systems should be installed at once in Aircraft 124, 122, and 125. IDEALIST use can commence as soon as the systems are installed on a retrofit basis.

establish the necessary procession of this project	
	Chief, Operations Division, OSA
CONCUR:	1

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25X1

25X1 JACK C. LEDFORD 8 FEB 1963 Colonel Assistant Director (Special Activities) OSA/OD/OXC/ (6 February 1963) 25X1 Distribution: #1 - OSA/C/OD#2 - AD/OSA#3 - OSA/C/DD #5 - OSA/C/CD #5 - OSA/OD/IDEA #6 - OSA/OD/OXC #7 - OSA/OD/CXC (Chrono) #8 - OSA/RB

25X1

Approved For Release 2002/08/16: CIA-RDP69B00279Re00100090001-5

	i conta	ios information
1 <b>15</b> 0	Project	UAGARI

11 December 1962

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### MEMORANDUM FOR THE RECORD

SUBJECT: OXCART Charts

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	held in the office of AFCIN-1, on 10 December.
25X1NRC	
25X1	AFCIN-1C4;
	CIA ACIC; and
25X1	GA.
	2. The meeting was concerned with working out problems connected with printing certain JN charts for the CXCART Project. A comprehensive review of the problems and requirements was achieved, with the following results:
	(a) ACIC will be given authorization to print the required charts and will further be authorized to contract out normal chart printing that otherwise would occupy the presses.
25X1	

- (c) A target date of 1 April 1963 was established as being the goal for delivery of the water-soluble charts, predicted on a 1 February delivery of the paper to ACIC.
- (d) A target date of 1 February 1963 was established as the date for delivery of certain ZI JN charts, printed on regular stock in the celor format to be employed on the soluble charts, for pilot training and familiarization.

OX C-4259-62 Page 2

3. Memoranda to ACIC, through AFCIG-5 and AFCIN, will be prepared shortly, establishing definitive requirements for printing, both for training charts and soluble charts.

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	25X1
Intelligence Staff/OSA	

### Distribution:

Cy 1 -- AD/GSA

Cy 2 -- OD/OSA

Cy 3 -- DD/OSA

Cy 4 -- ON CART Branch/OSA

Cy 5 -- 55/08A

Cy 6 -- Materiel/OSA

Cy 7 -- Contracts/OSA

Cy S -- Intel/CSA

Cy 9 -- RI/OSA

OXC 4226 Copy 3 of 9

5 DEC 1962

MEMORANDUM FOR: Assistant Director, OSA

SUBJECT:

Water Soluble Maps

- 1. This memorandum contains recommendations for the approval of the Assistant Director, OSA. Such recommendations are contained in paragraph 5.
- 2. This status report relates to the development progress of the water soluble map program.
  - a. The initial test production at ACIC has been completed and samples of the JN-47 have been provided field activities at Edwards Air Force Base Since Lockheed has not completed the aircraft installation to receive these water soluble maps, present field tests will be restricted to handling qualities and format only. It is estimated that the Lockheed systems will be installed in both type aircraft no earlier than 1 February 1963.
  - b. It is planned to proceed with ACIC production of 33 JN charts and 6 GNC charts which cover the Eurasian land mass. The following planning factors have been provided in connection with this production:
    - (1) Initial production can commence 15 January 1963.
      - (2) Total production time sixty days.
      - (3) Production cost approximately
- 3. Procurement action has been initiated to purchase 16,000 sheets of paper to be delivered approximately 15 January 1963 cost approximately
- 4. Due to the long lead time of ACIC chart production it seems wise to proceed with that phase of this program

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even though field functional tests have not been performed. Continued emphasis will be placed upon the lockheed proposal and production of the map case and associated water system.

- 5. It is recommended that the following tasks to be accomplished be approved:
  - a. Complete procurement action on the special paper (OSA/MD).
  - b. Attend AFCIN scheduling meeting 10 December 1962 to assure ACIC production (OSA/OD, OSA/INTEL, and AFCIG-5).
  - c. Approve expenditure of funds for this program (AD/OSA).
  - d. Encourage Lockheed to expedite system installation in U-2 and A-12 (DD/OSA).

Chief, Operations Division, OSA

The recommendations contained in paragraph 5 are approved:

LIGHTH

5 DEC 1962

JACK C. LEDFORD Colonel USAF Assistant Director (Special Activities)

OSA/OD/OXC/ (5 Dec 62)
Distribution:
#1 - OSA/C/OD
#2 - AD/OSA
#3 - OSA/OD/OXC (Chrono)

#5 - OSA/OD/IDEA #6 - OSA/MD

#7 - OSA/DD

#8 - OSA/INTEL

#9 - OSA/RB

#10 - OSA/OD/OXC

25X1